R_1 denotes a hydrogen, fluorine, chlorine or bromine atom, a C_{1-3}-alkyl group wherein the hydrogen atoms are optionally wholly or partially replaced by fluorine atoms, a hydroxy, C_{1-4}-alkoxy, phenyl-C_{1-3}-alkoxy, carboxy, C_{1-3}-alkoxycarbonyl, aminocarbonyl, C_{1-3}-alkylaminocarbonyl, N,N-di-(C_{1-3}-alkyl)-aminocarbonyl, nitro, amino, C_{1-3}-alkylamino, di-(C_{1-3}-alkyl)-amino, phenyl-C_{1-3}-alkyl-amino, N-(C_{1-3}-alkyl)-phenyl-C_{1-3}-alkylamino, C_{1-3}-alkyl-carbonylamino, N-(C_{1-3}-alkyl)-C_{1-3}-alkylcarbonylamino, C_{1-3}-alkylsulphonylamino or N-(C_{1-3}-alkyl)-C_{1-3}-alkyl-sulphonylamino group and

a1

R_2 denotes a hydrogen, fluorine, chlorine or bromine atom, a C_{1-3}-alkyl group or

R_1 and R_2 together denote a methylenedioxy group, a heteroaryl group, a monocyclic heteroaryl or phenyl group each of which is substituted by a phenyl or monocyclic heteroaryl group, while the abovementioned phenyl moieties are each optionally substituted by a fluorine, chlorine or bromine atom and the abovementioned phenyl moieties and heteroaryl groups are each optionally substituted by a C_{1-3}-alkyl group wherein the hydrogen atoms are optionally wholly or partially replaced by fluorine atoms, by a hydroxy, C_{1-3}-alkoxy, carboxy, C_{1-3}-alkoxycarbonyl, aminocarbonyl, C_{1-3}-alkylaminocarbonyl or N,N-di-(C_{1-3}-alkyl)-aminocarbonyl group,

R_b denotes a hydrogen atom or a C_{1-3}-alkyl group,

R_c denotes a hydrogen atom,
a C_{1-10}-alkyl, C_{3-7}-cycloalkyl or C_{3-7}-cycloalkyl-C_{1-3}-alkyl group wherein the hydrogen atoms in each case is optionally wholly or partially replaced by fluorine atoms,

a phenyl, naphthyl or heteroaryl group optionally substituted by a fluorine, chlorine or bromine atoms, by a C_{1-3}-alkyl group wherein the hydrogen atoms is optionally wholly or partially replaced by fluorine atoms, by a hydroxy, C_{1-3}-alkoxy, carboxy, C_{1-3}-alkoxycarbonyl, aminocarbonyl, C_{1-3}-alkylaminocarbonyl or N,N-di-(C_{1-3}-alkyl)-aminocarbonyl group, by a 3- to 7-membered cycloalkyleneimino group, while the

methylene group in position 4 of a 6- or 7-membered cycloalkyleneimino group may additionally be replaced by an oxygen or sulphur atom, by a sulphinyl, sulphonyl, imino or N-(C_{1-3}-alkyl)-imino group, by a nitro, amino, C_{1-3}-alkylamino, di-(C_{1-3}-alkyl)-amino, C_{1-3}-alkylcarbonylamino, N-(C_{1-3}-alkyl)-C_{1-3}-alkylcarbonylamino, C_{1-3}-alkylsulphonylamino or N-(C_{1-3}-alkyl)-C_{1-3}-alkylsulphonylamino group,

R_d denotes a phenyl, naphthyl or heteroaryl group each optionally substituted by a fluorine, chlorine or bromine atom, by a C_{1-3}-alkyl group wherein the hydrogen atoms are optionally wholly or partially replaced by fluorine atoms, by a hydroxy, C_{1-3}-alkoxy, carboxy, C_{1-3}-alkoxycarbonyl, aminocarbonyl, C_{1-3}-alkylaminocarbonyl or N,N-di-(C_{1-3}-alkyl)-aminocarbonyl group, by a 3- to 7-membered cycloalkyleneimino group, while the methylene group in the 4 position of a 6- or 7-membered cycloalkyleneimino group may additionally be replaced by an oxygen or sulphur atom, by a sulphinyl, sulphonyl, imino or N-(C_{1-3}-alkyl)-imino group, by a nitro, amino, C_{1-3}-alkylamino, di-(C_{1-3}-alkyl)-amino, C_{1-3}-alkylcarbonylamino, N-(C_{1-3}-alkyl)-C_{1-3}-alkylcarbonylamino, C_{1-3}-alkylsulphonylamino or N-(C_{1-3}-alkyl)-C_{1-3}-alkylsulphonylamino group, and

R_e denotes a carboxy group, a C_{1-6}-alkoxycarbonyl or C_{3-7}-cycloalkoxycarbonyl group, wherein the carbon atom of the alkoxycarbonyl group linked to the oxygen atom is a primary or secondary carbon atom and wherein the alkyl or cycloalkyl moiety of both groups are optionally substituted from position 2 in relation to the oxygen atom by a C_{1-3}-alkoxy, amino, C_{1-3}-alkylamino or di-(C_{1-3}-alkyl)-amino group, a phenyl-C_{1-3}-alkoxycarbonyl or heteroaryl-C_{1-3}-alkoxycarbonyl group,

while the abovementioned heteroaryl groups in this claim are
6-membered heteroaryl groups containing one, two or three nitrogen atoms,
and 5-membered heteroaryl groups, containing an imino group optionally substituted by a C_{1-3}-alkyl group, an oxygen or sulphur atom or an imino group optionally substituted by a C_{1-3}-alkyl group and an oxygen or sulphur atom or one or two nitrogen atoms,

or the isomers and the physiologically acceptable salts thereof.

11 (New). The compound the formula (I) according to claim 10, wherein

a1

n denotes the number 3, 4 or 5,

R_a denotes a phenyl group which is substituted by the groups R_1 and R_2, wherein

R_1 denotes a hydrogen, chlorine or bromine atom, a C_{1-3}-alkyl, C_{1-3}-alkoxy, benzyloxy, carboxy, C_{1-3}-alkyloxycarbonyl, nitro, amino, acetamino or methanesulphonylamino group and

R_2 denotes a hydrogen, chlorine or bromine atom or a methyl group or

R_1 and R_2 together denote a methylenedioxy group,

a biphenyl group which is optionally substituted by a fluorine, chlorine or bromine atom, by a methyl, methoxy or trifluoromethyl group,

a pyridyl, pyrimidyl, pyrazinyl, pyridazinyl or thienyl group optionally substituted by a phenyl group or

a phenyl group substituted by a thienyl, thiazolyl, pyrrolyl, imidazolyl, pyridyl group or benzimidazolyl group,

R_b denotes a hydrogen atom,

R_c denotes a C_{1-3}-alkyl or phenyl group and

R_d denotes a phenyl group optionally substituted by a fluorine or chlorine atom or a methyl or methoxy group.

12 (New). The compound the formula (I) according to claim 11, wherein

n denotes the number 3 or 4,

R_a denotes a phenyl group which is substituted by the groups R_1 and R_2, wherein

A1

R_1 denotes a hydrogen, chlorine or bromine atom, a C_{1-3}-alkyl, C_{1-3}-alkoxy or benzyloxy group and

R_2 denotes a hydrogen, chlorine or bromine atom or a methyl group,

R_1 and R_2 together denote a
a biphenyl group which is optionally substituted by a fluorine, chlorine or bromine atom, by a methyl, methoxy or trifluoromethyl group,

a pyridyl, pyrimidyl, pyrazinyl, pyridazinyl or thienyl group optionally substituted by a phenyl group or

a phenyl group substituted by a thienyl, thiazolyl, pyrrolyl, imidazolyl, pyridyl or benzimidazolyl group,

R_c denotes a C_{1-3}-alkyl group and

R_d denotes a phenyl group optionally substituted by a fluorine atom.

13 (New). A compound chosen from:

(a) methyl 2-ethyl-2-phenyl-5-[4-(4-chloro-phenyl)-piperazin-1-yl]-pentanoate,

(b) methyl 5-(4-biphenyl-4-yl-piperazin-1-yl)-2-ethyl-2-phenyl-pentanoate and

(c) methyl 5-(4-biphenyl-3-yl-piperazin-1-yl)-2-ethyl-2-phenyl-pentanoate

or the isomers and the physiologically acceptable salts thereof.

14 (New). A pharmaceutical composition comprising a pharmaceutically effective amount of a compound according to claim 10 and one or more pharmaceutically acceptable carriers and/or diluents.

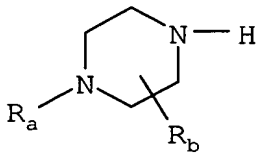
15 (New). A method of lowering plasma levels of atherogenic lipoproteins comprising administering to a patient in need thereof a pharmaceutically effective amount of a compound according to claim 10.

16(New). A method of treating hyperlipidaemias comprising administering to a patient in need thereof a pharmaceutically effective amount of a compound according to claim 10.

17(New). A method of treating or preventing a disorder chosen from atherosclerosis, diabetes mellitus, adiposity and pancreatitis comprising administering to a patient in need thereof a pharmaceutically effective amount of a compound according to claim 10.

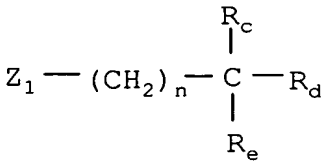
18 (New). A process for preparing a compound according to claims 10, said process comprising:

a) reacting under suitable conditions a compound of the formula (II):



(II)

wherein R_a and R_b are defined as in claim 10, with a compound of the formula (III)

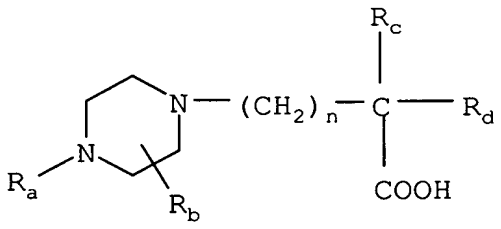


(III)

wherein n and R_c to R_e are defined as in claim 1 and Z_1 denotes a nucleofugic leaving group;

or

b) reacting by esterification under suitable conditions a compound of formula (IV):



(IV)

wherein

n and R_a to R_d are as defined in claim 10, or the reactive derivatives thereof,

with an alcohol of the formula (V):

$$H - R_e' \quad (V),$$

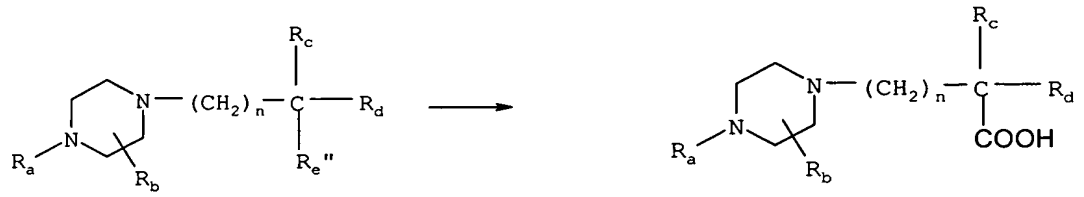
wherein

R_e' denotes a C_{1-6}-alkoxy or C_{3-7}-cycloalkoxy group wherein the alkyl or cycloalkyl moiety may in each case be substituted from the 2 position, relative to the oxygen atom, by a C_{1-3}-alkoxy, amino, C_{1-3}-alkylamino or di-(C_{1-3}-alkyl)-amino group, a phenyl-C_{1-3}-alkoxy or heteroaryl-C_{1-3}-alkoxy group, while the heteroaryl moiety is as hereinbefore defined, or

a tert.butyl ester is prepared by reacting with 2,2-dimethyl-ethene in the presence of an acid,

or

c) converting under suitable conditions a compound of the formula (VI) into a compound of the formula (I) in which R_e is defined as a carboxy group:



(VI) (I)

wherein

n and R_a to R_d are as defined in claim 10 and

R_e" denotes a group which can be converted into a carboxy group; and

for each of the above steps a-c, optionally subsequently:

reducing under suitable reducing conditions a compound of the formula (I) thus obtained which contains a nitro group into a corresponding amino compound and/or deprotecting under suitable conditions any protecting groups used during the reactions; and

isolating compounds of the formula I thus obtained by resolving into its stereoisomers and/or converting into the physiologically acceptable salts thereof.---